

**CUSTOMER NO.: 24737**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of	)	Examiner: Nancy BITAR
Gerhard TIVIG, et al.	)	
	)	Art Unit: 2624
Serial No.: 10/595,431	)	
	)	Confirmation: 9506
Filed: January 3, 2007	)	
	)	
For: <b>METHOD OF</b>	)	
<b>AUTOMATICALLY</b>	)	
<b>DISPLAYING MEDICAL</b>	)	
<b>MEASUREMENT DATA</b>	)	
	)	
Date of Final Office Action:	)	
March 31, 2011	)	
	)	
Attorney Docket No.:	)	
2003P00775WOUS (PHDE030358US1)	)	Cleveland, OH 44115
/ PKRZ 201325US01	)	July 20, 2011

**APPEAL BRIEF**

Commissioner For Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is an Appeal from the Final Rejection of March 31, 2011.

The Notice of Appeal was filed on May 26, 2011 with the Notice of Appeal fee.

Authorization to charge the 37 CFR 41.20(b)(2) Appeal Brief fee to the applicant's Deposit Account accompanies this Brief.

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**CERTIFICATE OF ELECTRONIC TRANSMISSION**

I certify that this **APPEAL BRIEF** and accompanying documents in connection with U.S. Serial No. 11/719,793 are being filed on the date indicated below by electronic transmission with the United States Patent and Trademark Office via the electronic filing system (EFS-Web).

July 22, 2011

/Patricia A. Heim/

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Date

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## TABLE OF CONTENTS

(i) REAL PARTY IN INTEREST .....	1
(ii) RELATED APPEALS AND INTERFERENCES.....	2
(iii) STATUS OF CLAIMS .....	3
(iv) STATUS OF AMENDMENTS .....	4
(v) SUMMARY OF CLAIMED SUBJECT MATTER.....	5
(vi) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL.....	9
(vii) ARGUMENT .....	10
A. Claim 12 and Claim 24 Dependent Therefrom Distinguish Patentably Over the References of Record.....	10
B. Claim 24 Distinguishes Patentably Over the References of Record.....	11
C. Claim 20 and Claims 3, 4, 21 & 27 Dependent Therefrom Distinguish Patentably Over the References of Record .....	12
D. Claim 3 Distinguishes Patentably Over the References of Record.....	13
E. Claim 21 Distinguishes Patentably Over the References of Record.....	13
F. Claim 27 Distinguishes Patentably Over the References of Record.....	14
G. Claim 22 Distinguishes Patentably Over the References of Record.....	14
H. Claim 28 and Claims 14, 16-18, 25, & 26 Dependent Therefrom Distinguish Patentably Over the References of Record .....	15
I. Claim 25 Distinguishes Patentably Over the References of Record.....	16
J. Claim 26 Distinguishes Patentably Over the References of Record.....	16
K. Conclusion .....	17
(viii) CLAIMS APPENDIX.....	18
(ix) EVIDENCE APPENDIX.....	22
(x) RELATED PROCEEDINGS APPENDIX .....	23

(i) REAL PARTY IN INTEREST

The Real Party in Interest is the Assignee, KONINKLIJKE PHILIPS  
ELECTRONICS, N.V.

(ii) RELATED APPEALS AND INTERFERENCES

None.

(iii) STATUS OF CLAIMS

Claims 3, 4, 12, 14, 16-18, 20-22, and 24-28 are pending.

Claims 1, 2, 5-11, 13, 15, 19, and 23 have been cancelled.

Claims 3, 4, 12, 14, 16-18, 20-22, and 24-28 stand rejected.

No claims stand allowed, confirmed, withdrawn, or objected to.

The rejection of each of claims 3, 4, 12, 14, 16-18, 20-22, and 24-28 is being appealed.

(iv) STATUS OF AMENDMENTS

No amendments have been filed subsequent to the Final Rejection of March 31, 2011.

(v) SUMMARY OF CLAIMED SUBJECT MATTER

3. The method as claimed in claim 20, further including:

filling the histogram with measurement data from a time window advancing in real time with selectable fixed length. {see page 1, line 28 – page 2, line 2}

4. The method as claimed in claim 20, wherein, during the conversion, the computer generates aids for the retrospective analysis of the histogram in the form of selectable functions that can be displayed on a viewing screen and outputs them together with the converted data combined as picture signals. {page 2, lines 18-22; page 3, lines 4-7; FIG. 1}

12. A medical monitoring device, comprising:

a display device for automatically displaying medical measurement data; and {see page 2, lines 30-31}

a computer programmed to perform the steps of: {see page 4, lines 10-11; FIG. 1}

receiving medical measurement data from a sensor device; {see page 4, lines 1-6; FIG. 1}

in real time, converting the medical measurement data into a histogram including a series of medical measurement values; {see page 2, lines 30-33}

combining the series of medical measurement values of the histogram into a cumulative curve {14}; {see page 4, lines 14-23; FIG. 1}

controlling the display device to display the cumulative curve superimposed on the histogram. {see page 4, lines 8-16; FIG. 1}

14. The medical monitoring device as claimed in claim 28, further comprising the computer further being programmed for generating retrospective analysis aids including at least one of: {see page 2, lines 18-22}

an inop bin displaying times of invalid or out of action measurement data; {see page 5, lines 3-7}

a deviation readout; {see page 5, lines 3-9}

a direction-change indicator; {see page 5, lines 3-9}

a histogram snapshot and trends aid; and {see page 5, lines 3-11}

a combination of a plurality of histograms. {see page 5, lines 3-13}

16. The medical monitoring device as claimed in claim 28, further comprising an alarm indicator that is triggered when a measurement of histogram data is measured above or below a lower or upper alarm limit level. {see page 6, lines 9-14; FIG. 5}

17. The medical monitoring device as claimed in claim 28, wherein the histogram data is binned into histogram bins, the histogram bin size being definable by the user. {see page 4, lines 14-29; FIG. 1}

18. The medical monitoring device as claimed in claim 28, wherein the display further displays real-time signal patterns of the medical measurement data concurrently with the superimposed histogram values and cumulative curve (14). {see page 4, lines 14-18; FIG. 1}

20. A method of automatically displaying medical measurement data in which a computer: {see page 2, lines 30-31; page 4, lines 1-13; FIG. 1}

receives the medical measurement data, {see page 2, lines 31-32}

automatically converts in real time the received measurement data into data for a histogram including updating the histogram in real time, {see page 2, lines 32-33}

during the conversion, generates a cumulative curve {14} indicative of the medical measurement data the cumulative curve being cumulative of the series of histogram values, and {see page 2, lines 18-20; page 4, lines 1-23; FIG. 1}

displays the histogram with the cumulative curve superimposed, the histogram and the cumulative curve having common axes and a common scales. {see page 4, lines 14-23; FIG. 1}

21. The method as claimed in claim 4, wherein the retrospective analysis aids include at least one of: {see page 2, lines 18-22}

a cumulative curve cursor {28} for determining a percentage of time that histogram values are below a current cumulative cursor position; {see page 6, lines 2-8; FIG. 4}

range-selection cursors {30} for determining a percentage of time that histogram values are within limits defined by the range-selection cursors; {see page 5, lines 9-14; FIG. 5}

a variability/stability readout that provides information about variability of the measurement data; and {see page 5, lines 30-34; FIG. 6}

a deviation and direction-change readout that shows deviation from a mean histogram value and a direction of measurement data change. {see page 5, line 30 – page 6, line 1}

22. A computer readable medium storing a computer program for controlling a computer to perform the method of: {see page 2, lines 30-31; page 4, lines 1-13; FIG.1}

receiving medical measurement data; {see page 2, lines 31-32}

converting in real time the received measurement data into data for a histogram including a continuously updated series of histogram values; {see page 2, lines 32-33}

during the conversion, generating a cumulative curve indicative of the medical measurement data, the cumulative curve being cumulative of the series of histogram values; and, {see page 2, lines 18-20; page 4, lines 1-23; FIG. 1}

outputting the cumulative curve superimposed on the histogram as picture signals. {see page 4, lines 14-23; FIG. 1}

24. The medical monitoring device as claimed in claim 12, wherein the histogram and the cumulative curve {14} are displayed with common axes and scales {see page 4 lines 14-23; FIG. 1}

25. The medical monitoring device as claimed in claim 28, wherein the histogram data includes a series of medical measurement values and the cumulative curve {14} includes a sum of the medical measurement values. {see page 4, lines 14-29; FIG. 1}

26. The medical monitoring device as claimed in claim 28, wherein the histogram {12} and the cumulative curve {14} are displayed superimposed with common axes and scales. {see page 4, lines 14-23; FIG. 1}

27. The method as set forth in claim 20, further including:  
displaying the histogram values as histogram columns {12} and the cumulative curve {14} is displayed as a curve superimposed on the histogram columns. {see page 4, lines 14-23; FIG. 1}

28. A medical monitoring device comprising:  
computer programmed for: {see page 2, lines 30-31; FIG. 1}  
receiving medical measurement data, {see page 2, lines 31-32}  
automatically converting the medical measurement data into histogram data as the computer receives the medical measurement data, {see page 2, lines 32-33}  
generating a cumulative curve {14} as the medical measurement data is received; and {see page 2, lines 18-20; page 4, lines 1-23; FIG. 1}  
a display device controlled to display the cumulative curve superimposed on the histogram data as the medical measurement data is received. {see page 4, lines 14-23; FIG. 1}

(vi) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 3, 4, 12, 14, 16-18, 20-22, and 24-28 distinguish patentably in the sense of 35 U.S.C. § 103 over Seely (US 2003/0117296) as modified by Zaleski (US 2003/0101076).

(vii) ARGUMENT

A. Claim 12 and Claim 24 Dependent Therefrom Distinguish Patentably Over the References of Record

Claim 12 calls for a computer programmed to:

- (a) convert medical measurement data into a histogram,
- (b) combine the values of the histogram into a cumulative curve, and
- (c) control a display device to display the cumulative curve superimposed on the histogram.

Seely, as noted by the Examiner, in paragraph [0085] and in plots 518 and 538 of Figure 5, does calculate a histogram. The histogram 518, 538 represents a frequency of occurrence on the y-axis and an amount of deviation on the x-axis. First, Seely does not suggest combining the values in each of the bins of the histogram to form a cumulative curve. Lines 522, 542 of the log-log plots 520, 540 of Seely, referenced by the Examiner, represent a linear representation of the frequency distribution of histograms 518, 538 on a log-log plot of frequency versus variation. Thus, the log-log plots 520, 540 are not cumulative curves formed by combining the series of values of the histograms 518, 538.

Second, the lines 522, 542 of the log-log plots 520, 540 of Seely are not displayed superimposed on the histogram 518, 538. Rather, they are displayed on separate displays or plots. Thus, even if one could construe lines 522, 542 of the log-log plots as a cumulative curve made by combining a series of medical measurement values of the histograms 518, 538, the lines 522, 542 are still not displayed superimposed on the histograms 518, 538.

Zaleski does not cure these shortcomings of Seely. First, Figure 9 of Zaleski, referenced by the Examiner, is not a curve of any type. Rather, paragraph [0021] of Zaleski describes Figure 9 as a computer screen shot illustrating an initial entry screen, completed upon arrival from surgery.

Second, paragraphs [0058]-[0060] of Zaleski, referenced by the Examiner, do not disclose generating a histogram. Nor does the referenced section of Zaleski disclose combining values of a histogram to form a cumulative curve. Rather, the curves discussed in paragraphs [0058]-[0060] of Zaleski is a model trajectory

along the expected recovery path of increased pulmonary capital wedge pressure (CWP), decreased stroke volume (SV), and heart rate (HR) and the patient's actual trajectories of these physiological values versus recovery time. Zaleski does not suggest combining values of a histogram to form a cumulative curve. Rather, Zaleski suggests combining the trajectories to develop a cumulative estimate of "sameness". It is submitted that if the patient's actual recovery trajectory is very much the same as the expected trajectory, the patient can be expected to recover normally. But, if the patient's recovery trajectory deviates significantly from the expected trajectory, then the patient has experienced significant problems and medical intervention should be considered.

Third, Zaleski does not disclose or fairly teach displaying a cumulative curve superimposed on a histogram. It is submitted that the trajectories of Zaleski are not cumulative curves as defined in claim 12. Even if the Zaleski trajectories are considered cumulative curves, they are still not displayed superimposed on a histogram.

Because Zaleski does not teach converting histogram data into a cumulative curve and does not teach displaying such a cumulative or any curve superimposed on a histogram, it is submitted that Zaleski does not cure the Seely shortcoming of not combining values of a histogram into a cumulative curve nor Seely's shortcoming of not displaying a cumulative curve or any curve superimposed on a histogram.

Accordingly, it is submitted that claim 12 and claim 24 dependent therefrom distinguish patentably and unobviously over the references of record.

B. Claim 24 Distinguishes Patentably Over the References of Record

Claim 24 calls for the histogram and the cumulative curve to be displayed with common axes and scales. The histograms 518, 532 of Seely are described as representing frequency versus amount of deviation. The log-log plots including curves 522, 542 are described by Seely as being a log-log plot. Thus, the histograms are displayed in magnitude and lines 522, 542 are displayed logarithmically. Thus, this histograms and the curves 522, 542 of Seely are not displayed with common scales. Moreover, the lines 522, 542 of Seely are displayed

in a separate plot from the histograms and not with axes common to the histogram axes. Zaleski is not asserted to and does not cure these shortcomings of Seely.

Accordingly, it is submitted that claim 24 distinguishes patentably and unobviously over the references of record.

C. Claim 20 and Claims 3, 4, 21 & 27 Dependent Therefrom Distinguish Patentably Over the References of Record

Claim 20 calls for receiving medical measurement data, automatically converting the received measurement data into data for a histogram and, during the conversion, generating a cumulative curve indicative of the medical data, the cumulative curve being cumulative of the series of histogram values. As the Examiner notes, Seely does generate histograms 518, 538. However, lines 522, 542 on the log-log plots 520, 540 of Seely are not cumulative of the series of histogram values.

Zaleski does not cure this shortcoming of Seely. Zaleski does not generate a histogram and convert the values of the histogram into a cumulative curve which is cumulative of the series of histogram values. Rather, Zaleski determines the degree of sameness between the patient's expected and actual recovery trajectories. There is no summing of the values of a histogram into cumulative values. Accordingly, it is submitted that Zaleski does not cure this shortcoming of Seely.

Claim 20 further calls for displaying the histogram with the cumulative curve superimposed. Seely displays the histograms 518, 538 in different plots displaced from the lines 522, 542 in the separate log-log plot. The lines 522, 542 are not superimposed on the histograms 518, 538. While Zaleski displays a number of plots, none of these plots include a histogram with a cumulative curve superimposed on the histogram. Accordingly, it is submitted that Zaleski does not cure this shortcoming of Seely.

Claim 20 further calls for the histogram and cumulative curve to have common axes and common scales. By contrast, the histograms 518, 538 and the log-log plots are displayed with different scales, one being logarithmic and the other not. Rather than being displayed on common axes, the histograms and the lines are displayed in separate displaced plots or displays. Zaleski does not cure this

shortcoming of Seely. None of the display plots described in Seely include a histogram and a cumulative curve which have common axes and common scales.

Accordingly, it is submitted that claim 20 and claims 3, 4, 21 and 27 dependent therefrom distinguish patentably and unobviously over the references of record.

D. Claim 3 Distinguishes Patentably Over the References of Record

Claim 3 calls for filling the histogram with measurement data from a time window advancing in real-time with selectable fixed length. The histogram 518, 538 of Seely is a plot of frequency of occurrence versus degree of deviation. Thus, the histogram of Seely is not filled with data from a time window advancing in real time with a selectable fixed length. Figure 6 of Seely, referenced by the Examiner, shows selected parameters but does not show a histogram which is filled with measurement data from a time window advancing in real time and with selectable fixed length. Zaleski was not cited as and does not cure this shortcoming of Seely.

Accordingly, it is submitted that claim 3 distinguishes patentably over the references of record.

E. Claim 21 Distinguishes Patentably Over the References of Record

Claim 21 calls for a cumulative cursor for determining a percentage of time that the histograms values are below a current cumulative cursor position. Lines 522, 542 of Seely are not cumulative curves as defined in the claims and there is no cursor which is moved along lines 522, 542. Moreover, there is no suggestion of determining a percentage of time that histogram values are below a current cumulative cursor position. While the Examiner points to numerous calculations of Seely, none of the calculations are based on a current cumulative curve cursor position. Zaleski is not asserted to and does not cure this shortcoming of Seely.

Claim 21 calls for range selection cursors for determining a percentage of time that the histogram values are within limits defined by the range selection cursors. The Examiner has a long discussion concerning range selection cursors, but fails to point to any portion of Seely that describes or fairly suggests range selection cursors for the histograms 518, 538, much less range selection cursors for determining

a percentage of time that the histogram values are within defined limits. Zaleski is not asserted to and does not cure this shortcoming of Seely. Accordingly, it is submitted that the Examiner has not met the burden of showing that range selection cursors for histograms are known in the art.

Similarly, the Examiner has failed to show where Seely suggests a variability/stability readout that provides information about the variability of the measurement data or a deviation and direction-change readout that shows deviation from a mean histogram value and a direction of the measurement data change. The Examiner has not asserted that Zaleski cures these shortcomings of Seely, and indeed, Zaleski does not. Accordingly, it is submitted that the Examiner has failed to meet her burden of proof that the variability/stability readout and deviation and direction-change readout as set forth in claim 21 are known in the art.

Accordingly, it is submitted that claim 21 distinguishes patentably over the references of record.

F. Claim 27 Distinguishes Patentably Over the References of Record

Claim 27 calls for displaying the histogram values as histogram columns and for the cumulative curve to be displayed as a curve superimposed on the histogram columns. In Figure 5 of Seely, referenced by the Examiner, no curves, cumulative or otherwise, are disclosed as being superimposed on columns of histograms 518, 538. Zaleski, which does not display histogram columns, fails to cure this shortcoming of Seely.

Accordingly, it is submitted that claim 27 distinguishes patentably over the references of record.

G. Claim 22 Distinguishes Patentably Over the References of Record

Claim 22 calls for generating a cumulative curve indicative of the medical measurement data, which cumulative curve is cumulative of a series of histogram values. Seely discloses histograms 518, 538, but does not generate a curve which is cumulative of the series of values of the histograms 518, 538. Zaleski also does not teach generating a cumulative curve indicative of medical measurement data, which cumulative curve is cumulative of a series of histogram values. Rather, Zaleksi

generates a sameness value indicative of how closely a patient's actual recovery trajectory for various medical parameters is conforming to an expected recovery trajectory.

Claim 22 further calls for outputting the cumulative curve superimposed on the histogram as picture signals. Seely outputs the histogram 518, 538 as picture signals, but makes no suggestion of superimposing any curve, much less a cumulative curve, on the histogram. Lines 522, 542 are displayed in separate pictures 520, 540. Zaleski does not cure this shortcoming of Seely. Zaleski outputs a degree of sameness between actual and expected recovery trajectories for a patient, but makes no suggestion of superimposing a curve, much less a cumulative curve, on a histogram as a picture signal.

Accordingly, it is submitted that claim 22 distinguishes patentably over the references of record.

H. Claim 28 and Claims 14, 16-18, 25, & 26 Dependent Therefrom Distinguish Patentably Over the References of Record

Claim 28 calls for a display device controlled to display a cumulative curve superimposed on histogram data. Medical data is converted into the histogram data and used to generate the cumulative curve as the medical data is received. Seely makes no suggestion of superimposing a curve on histogram data, much less superimposing a cumulative curve on histogram data as medical measurement data is received. Rather, Seely teaches that the histogram data 518, 538 should be displayed in different windows from the log-log plots 520, 540 and the lines 522, 542. Seely does not disclose superimposing lines 522, 542, or any other lines or curves on the histogram displays 518, 538. Zaleski fails to cure these shortcomings of Seely. Zaleski determines a sameness measurement between expected and actual trajectories for various physiological parameters. There is no suggestion of histogram data or a cumulative curve, much less any suggestion or teaching of superimposing any curve on histogram data, much less a cumulative curve on histogram data as medical measurement data is received.

Accordingly, it is submitted that claim 28 and claims 14-18, 25, and 26 dependent therefrom distinguish patentably and unobviously over the references of record.

I. Claim 25 Distinguishes Patentably Over the References of Record

Claim 25 calls for the histogram data to include a series of medical measurement values and the cumulative curve to include a sum of the medical measurement values. In Seely, the histograms 518, 538 represent frequency and variation which are calculated as functions of medical measurement values. Seely has no cumulative curve which is a sum of these underlying medical measurement values. Nor does Seely generate a curve which is a sum of the frequency values (or the variation values) of the histograms 518, 538. Rather, Seely calculates other functions. Zaleski was not cited as and does not cure these shortcomings of Seely.

Accordingly, it is submitted that claim 25 distinguishes patentably over the references of record.

J. Claim 26 Distinguishes Patentably Over the References of Record

Claim 26 calls for the histogram and the cumulative curve to be displayed superimposed with common axes and scales. The histogram 518, 538 of Seely is not described as being displayed on a logarithmic scale. The log-log plot 520, 540 is displayed on a logarithmic plot. Thus, the histograms and the log-log plots of Seely are not displayed with the same scale.

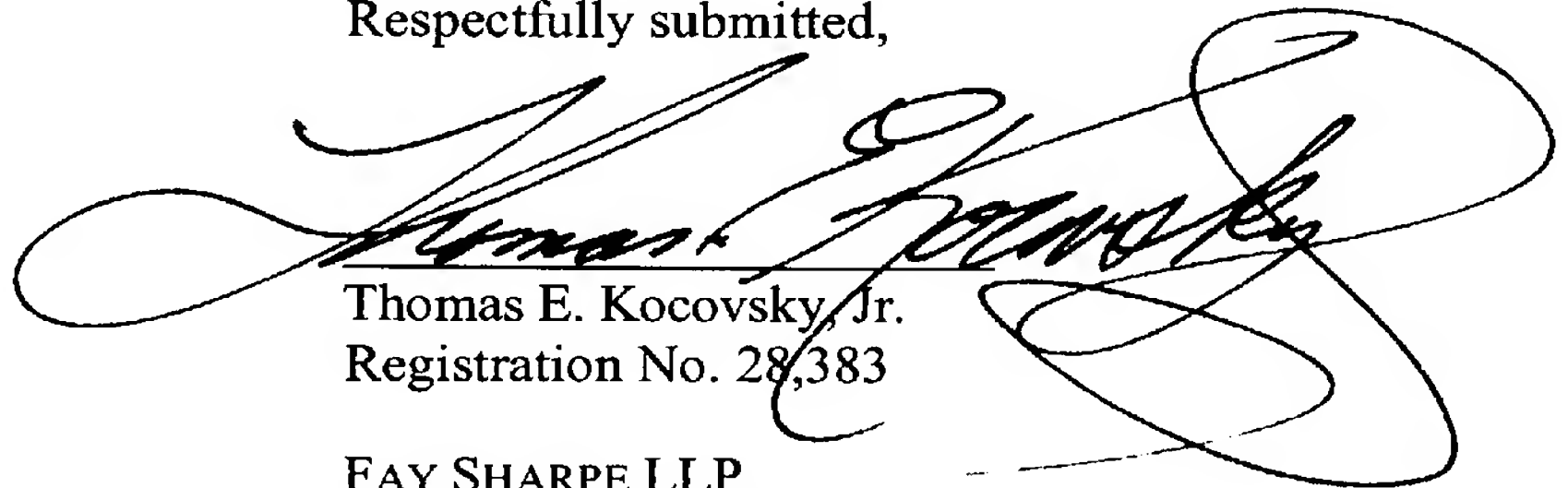
Moreover, the histogram and the log-log plot of Seely are displayed in separate windows or pictures and not superimposed with common axes. Zaleski was not cited as and does not cure these shortcomings of Seely.

Accordingly, it is submitted that claim 26 distinguishes patentably over the references of record.

K. Conclusion

For the reasons set forth above, it is submitted that 3, 4, 12, 14, 16-18, 20-22, and 24-28 distinguish patentably and unobviously over the references of record. None of the references teach or disclose displaying a curve, such as a cumulative curve, superimposed on a histogram. An early reversal of all rejections is requested.

Respectfully submitted,

A large, stylized handwritten signature in black ink, likely belonging to Thomas E. Kocovsky, Jr., is written over a horizontal line.

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(viii) CLAIMS APPENDIX

1-2. (Cancelled)

3. (Rejected) The method as claimed in claim 20, further including:

filling the histogram with measurement data from a time window advancing in real time with selectable fixed length.

4. (Rejected) The method as claimed in claim 20, wherein, during the conversion, the computer generates aids for the retrospective analysis of the histogram in the form of selectable functions that can be displayed on a viewing screen and outputs them together with the converted data combined as picture signals.

5-11. (Cancelled)

12. (Rejected) A medical monitoring device, comprising:  
a display device for automatically displaying medical measurement data; and

a computer programmed to perform the steps of:

receiving medical measurement data from a sensor device;

in real time, converting the medical measurement data into a histogram including a series of medical measurement values;

combining the series of medical measurement values of the histogram into a cumulative curve;

controlling the display device to display the cumulative curve superimposed on the histogram.

13. (Cancelled)

14. (Rejected) The medical monitoring device as claimed in claim 28, further comprising the computer further being programmed for generating retrospective analysis aids including at least one of:

an inop bin displaying times of invalid or out of action measurement data;

a deviation readout;

a direction-change indicator;

a histogram snapshot and trends aid; and

a combination of a plurality of histograms.

15. (Cancelled)

16. (Rejected) The medical monitoring device as claimed in claim 28, further comprising an alarm indicator that is triggered when a measurement of histogram data is measured above or below a lower or upper alarm limit level.

17. (Rejected) The medical monitoring device as claimed in claim 28, wherein the histogram data is binned into histogram bins, the histogram bin size being definable by the user.

18. (Rejected) The medical monitoring device as claimed in claim 28, wherein the display further displays real-time signal patterns of the medical measurement data concurrently with the superimposed histogram values and cumulative curve.

19. (Cancelled)

20. (Rejected) A method of automatically displaying medical measurement data in which a computer:

receives the medical measurement data,

automatically converts in real time the received measurement data into data for a histogram including updating the histogram in real time,

during the conversion, generates a cumulative curve indicative of the medical measurement data the cumulative curve being cumulative of the series of histogram values, and

displays the histogram with the cumulative curve superimposed, the histogram and the cumulative curve having common axes and a common scales.

21. (Rejected) The method as claimed in claim 4, wherein the retrospective analysis aids include at least one of:

a cumulative curve cursor for determining a percentage of time that histogram values are below a current cumulative cursor position;

range-selection cursors for determining a percentage of time that histogram values are within limits defined by the range-selection cursors;

a variability/stability readout that provides information about variability of the measurement data; and

a deviation and direction-change readout that shows deviation from a mean histogram value and a direction of measurement data change.

22. (Rejected) A computer readable medium storing a computer program for controlling a computer to perform the method of:

receiving medical measurement data;

converting in real time the received measurement data into data for a histogram including a continuously updated series of histogram values;

during the conversion, generating a cumulative curve indicative of the medical measurement data, the cumulative curve being cumulative of the series of histogram values; and,

outputting the cumulative curve superimposed on the histogram as picture signals.

23. (Cancelled)

24. (Rejected) The medical monitoring device as claimed in claim 12, wherein the histogram and the cumulative curve are displayed with common axes and scales

25. (Rejected) The medical monitoring device as claimed in claim 28, wherein the histogram data includes a series of medical measurement values and the cumulative curve includes a sum of the medical measurement values.

26. (Rejected) The medical monitoring device as claimed in claim 28, wherein the histogram and the cumulative curve are displayed superimposed with common axes and scales.

27. (Rejected) The method as set forth in claim 20, further including:

displaying the histogram values as histogram columns and the cumulative curve is displayed as a curve superimposed on the histogram columns.

28. (Rejected) A medical monitoring device comprising:  
computer programmed for:

receiving medical measurement data,

automatically converting the medical measurement data into histogram data as the computer receives the medical measurement data,

generating a cumulative curve as the medical measurement data is received; and

a display device controlled to display the cumulative curve superimposed on the histogram data as the medical measurement data is received.

(ix) EVIDENCE APPENDIX

Not Applicable.

(x) RELATED PROCEEDINGS APPENDIX

None.